

REMARKS

Claims 41-87 and 89-91 are active. Claims 12-23 and 25-30 have been withdrawn from consideration. Claims 41, 42, 46 and 49 have been amended to refer to a polynucleotide which encodes a polypeptide which increases lysine production in corynebacteria. Support for this limitation is found in the specification at page 10, lines 5-6 and page 11, lines 26-31. Claims 41-43 and 51-55 have also been revised to refer to SEQ ID NO: 4 instead of SEQ ID NO: 2 in view of the suggestion by the Examiners. Claim 88 has been cancelled without prejudice. Claims 89-91 are presented in independent form. Accordingly, the Applicants do not believe that any new matter has been introduced.

The Applicants thank Examiner Hutson for the helpful and courteous interview of April 20, 2004. It was suggested that the term "activity of the ribosomal S12 protein" be replaced with a functional term such as "which encodes a polypeptide which increases lysine production in corynebacteria", because the latter functional limitation is exemplified in the specification. It was also suggested that the claims refer to the polypeptide of SEQ ID NO: 4 instead of the polypeptide of SEQ ID NO: 2, because the polypeptide of SEQ ID NO: 4 is exemplified as increasing lysine production. The above amendments track the changes discussed during the interview. Accordingly, favorable consideration is now requested.

RESTRICTION

The Applicants note that the Restriction Requirement has been made Final. Claims 12-23 and 25-30 have been withdrawn from consideration. The Applicants respectfully request that these claims be rejoined upon an indication of allowability for the claims of the elected group, see M.P.E.P. § 821.04.

REJECTION – 35 U.S.C. § 112, SECOND PARAGRAPH

Claims 41-81 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for the recitation of the phrase “activity of the ribosomal protein S12”. The Applicants respectfully submit that this rejection is moot in view of the amendment of independent Claim 41.

REJECTION – 35 U.S.C. § 112, FIRST PARAGRAPH

Claims 41-46, 48, 49, 51-53, 55, 59-76 and 88-91 were rejected under 35 U.S.C. § 112, first paragraph as lacking adequate description. The concern was that the claims embrace “all possible polynucleotides which are at least 95% identical to a polynucleotide which encodes SEQ ID NO: 2” and which have an activity of the ribosomal S12 protein. The claims have now been amended to replace “ribosomal S12 protein activity” with a functional activity exemplified in the specification, namely, the ability to increase lysine production in corynebacteria. The claims have also been revised to refer to sequences having at least 95% identity to SEQ ID NO: 3 (or which encode a polypeptide with at least 95% identity to SEQ ID NO: 4). Moreover, the specification shows that such polynucleotides encode polypeptides with this activity. Therefore, the Applicants submit that the structural limitation “at least 95%” in conjunction with this new functional limitation adequately describes the claimed subject matter.

REJECTION – 35 U.S.C., FIRST PARAGRAPH

Claims 41-46, 48, 49, 51-53, 55, 59-76 and 88-91 were rejected under 35 U.S.C. § 112, first paragraph, as lacking adequate enablement for (a) a polynucleotide comprising a mere 15 nucleotides of SEQ ID NO: 2 or (b) for a polynucleotide at least 95% identical to SEQ ID NO: 1. The Applicants address the In re Wands factor below. (1) The quantity of

experimentation merely involves expressing a particular polynucleotide sequence having at least 95% identity to SEQ ID NO: 1 in a corynebacteria and comparing whether the transformed corynebacteria makes more lysine than the untransformed starting strain. This procedure can be easily applied to any desired number of different transformed strains. (2) The specification provides direction and guidance to do this and (3) actually exemplifies such an assay, see e.g., Examples 4 and 5 on pages 19-24. (4) The nature of the invention deals with a genus of polynucleotides encoding polypeptides involved with fermentation of amino acids and with polynucleotides characterized by a very high degree of identity to a known sequences, such as SEQ ID NO: 3. The state of the prior art shows that it is routine to make or select variants of a known polynucleotide sequence, transform such variant polynucleotides into corynebacteria and determine levels of amino acid production. Such procedures are also exemplified in the specification. (6) The relative skill of those in the molecular biological arts is high, generally post-graduate level. (7) The art is predictable in that one with skill in the art would recognize that polynucleotide sequences having a high degree of identity with a known active sequence like SEQ ID NO: 1 are much more likely to encode functionally active proteins than those with a low, e.g., less than 70% identity with such a known sequence. Accordingly, the Applicants respectfully request that this rejection be withdrawn.

REJECTION – 35 U.S.C. § 102

Claims 88-91 were rejected under 35 U.S.C. § 102(a) as being anticipated by Nakagawa (“Satochi et al.”), EP 1 108 790, (Ref. AP). The Applicants submit that this rejection is moot in view of the amendment of these claims to use the transitional phrase “consisting of”.

REJECTION – 35 U.S.C. § 102(b)

Claims 88-91 were rejected under 35 U.S.C. § 102(b) as being anticipated by Nair et al., Nucleic Acids Research 21:1039, Reference AB. The Applicants submit this rejection is moot in view of the amendment of these claims to use the transitional phrase “consisting of”.

CONCLUSION

In view of the above amendments and remarks, the Applicants respectfully submit that this application is now in condition for allowance. Early notification to that effect is earnestly solicited.


Respectfully submitted,

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